



Virginia Wastewater Surveillance Program: Community of Practice Meeting

WWS Team

VDH | Office of Environmental Health Services

February 23, 2022

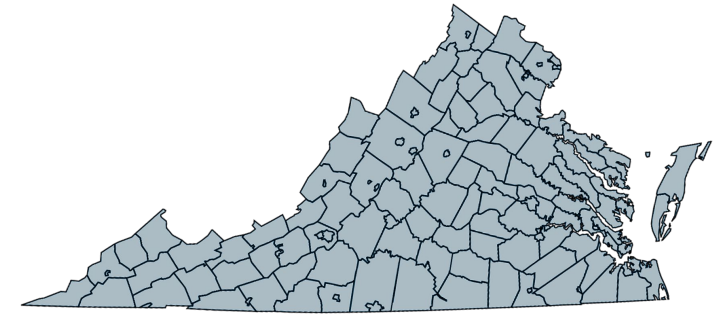


Agenda

- ❑ **Updates & Funding Opportunities (5 mins)**
- ❑ **Topic(s) of Interest (20 mins):**
 - *What is a Localized Project?*
 - *Localized Project: Chesapeake!*
 - *Proposal Requirements*
- ❑ **Open Discussion (5-10 mins)**



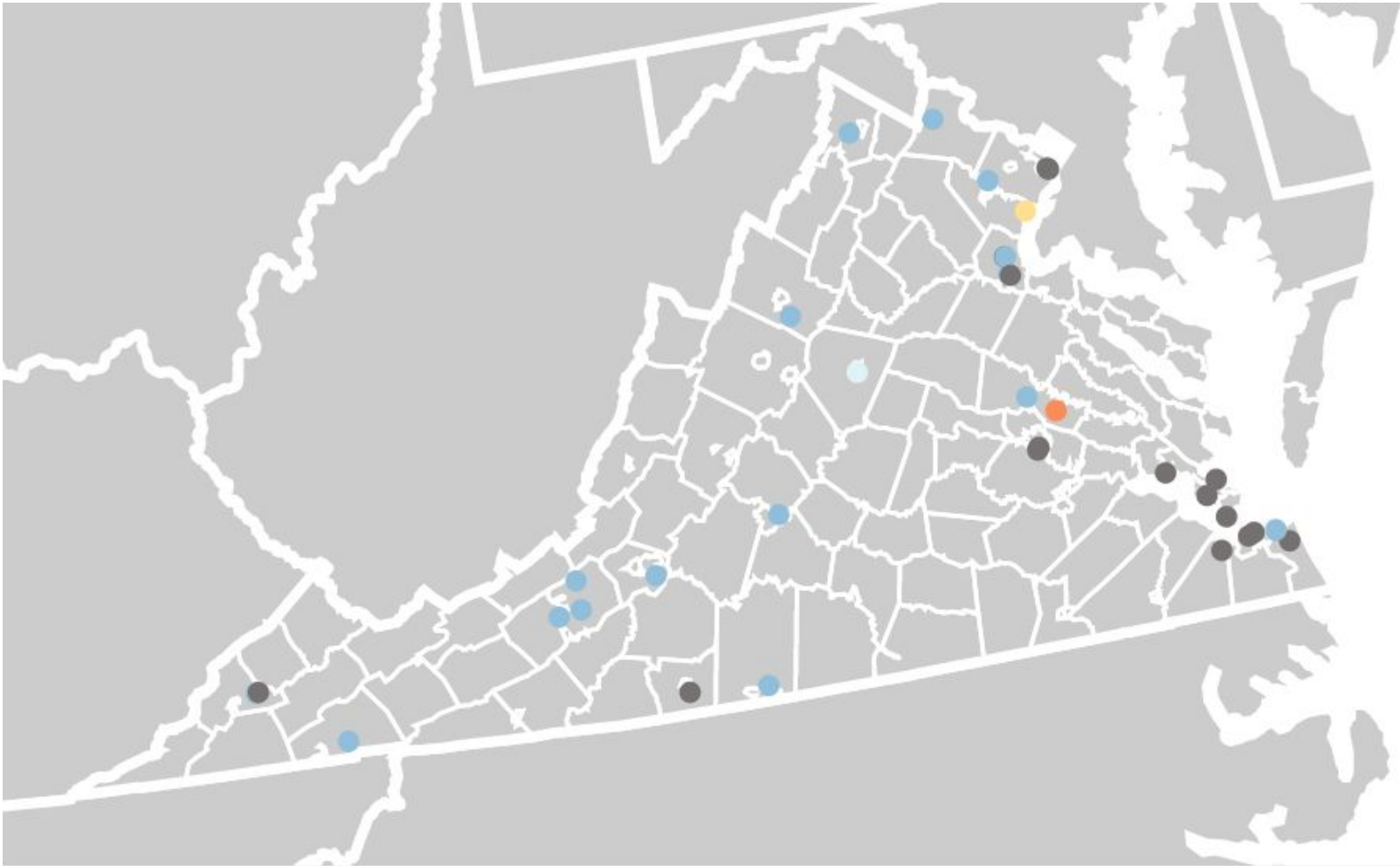
Sentinel Monitoring Updates



Weekly SARS-CoV-2 monitoring at influent to 25 wastewater treatment plants statewide started on September 13: 24 weeks!

- ❖ Weekly results sharing with:
 - Utilities, Health Department Partners, Environmental Health Managers, DCIPHER
 - Internal-facing Dashboard
- ❖ **Targeted Mutation Detection ongoing**
- ❖ **Sequencing to begin soon!**
- ❖ **CDC: Released COVID Data Tracker**

CDC NWSS COVID-19 Data Tracker



SARS-CoV-2 RNA wastewater levels, Virginia:
15-day percent change by sewershed

% change	Num. sites	% sites
-100% or less	0	0
-99% to -10%	18	82
-9% to 0%	2	9
1% to 9%	0	0
10% to 99%	1	5
100% to 999%	1	5
1000% or more	0	0

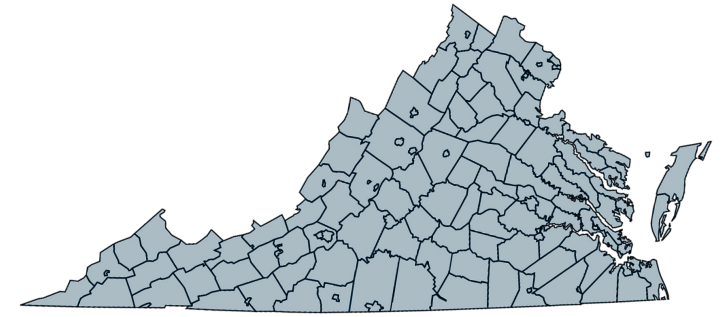
Total sites with current data: 22

[How is percent change calculated?](#)

Time Period:
Jan 29, 2022 – Feb 12, 2022

● -100% or less ● -99% to -10% ● -9% to 0% ● 1% to 9% ● 10% to 99% ● 100% to 999% ● 1000% or more ● No recent data

Funding Opportunities



❖ CDC-LuminUltra Commercial Sampling

- Still enrolling new utilities: 9 sites are already registered
- Must not be currently involved in CDC NWSS
- Sampling: twice/week
 - Will start sequencing in Phase 2

❖ Localized Projects

- Application live!

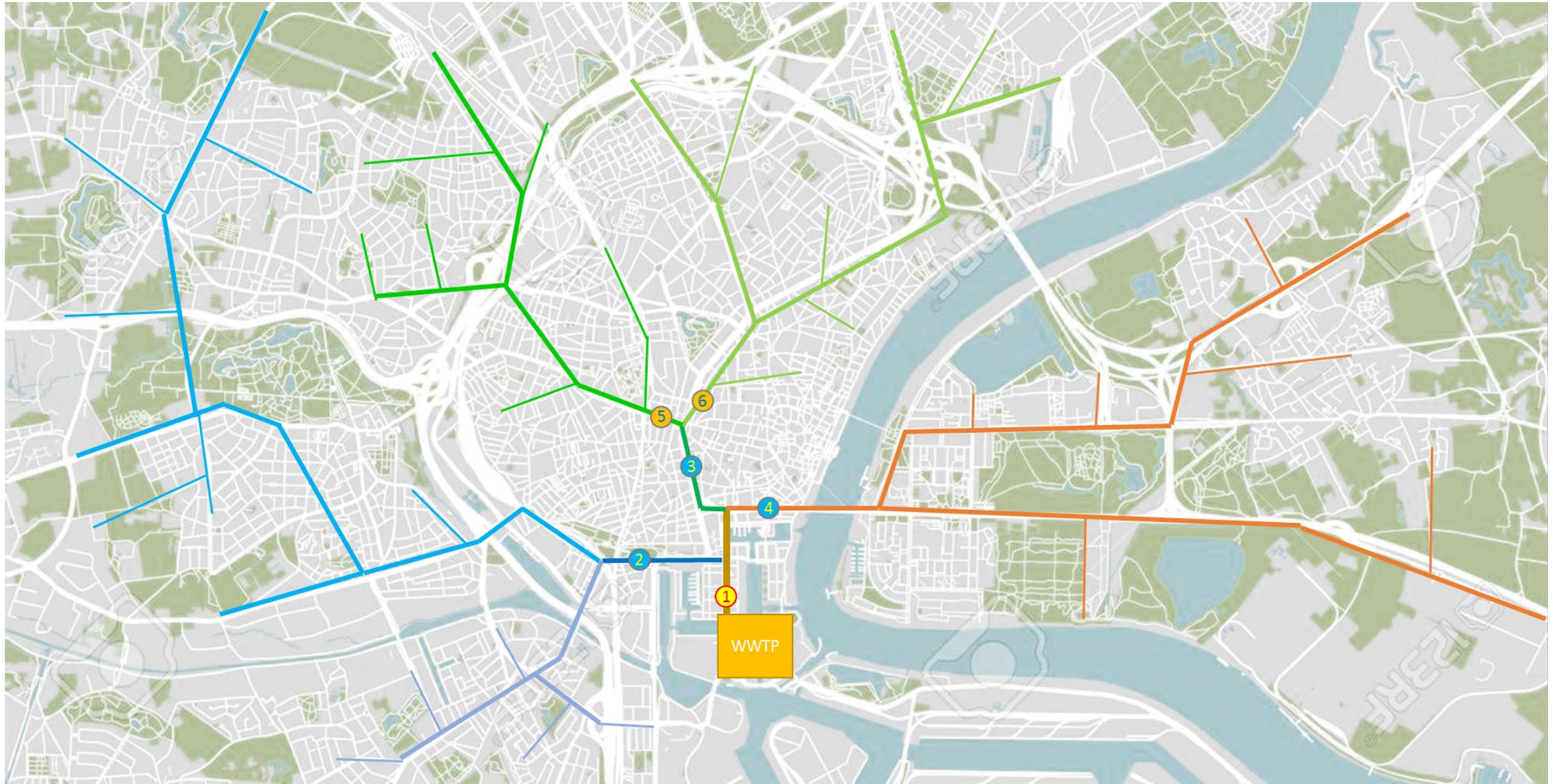
Localized Project Overview

A collaborative group using wastewater surveillance (WWS) to assess a COVID-19 community health question.

Potential Partners for WWS: academics, public health, wastewater utilities, community leaders, local government, independent institutions/businesses... *anyone who can collect samples!*

Potential Locations for WWS: community centers, academic institutions, healthcare facilities, housing developments, large businesses... *anywhere samples can be collected!*

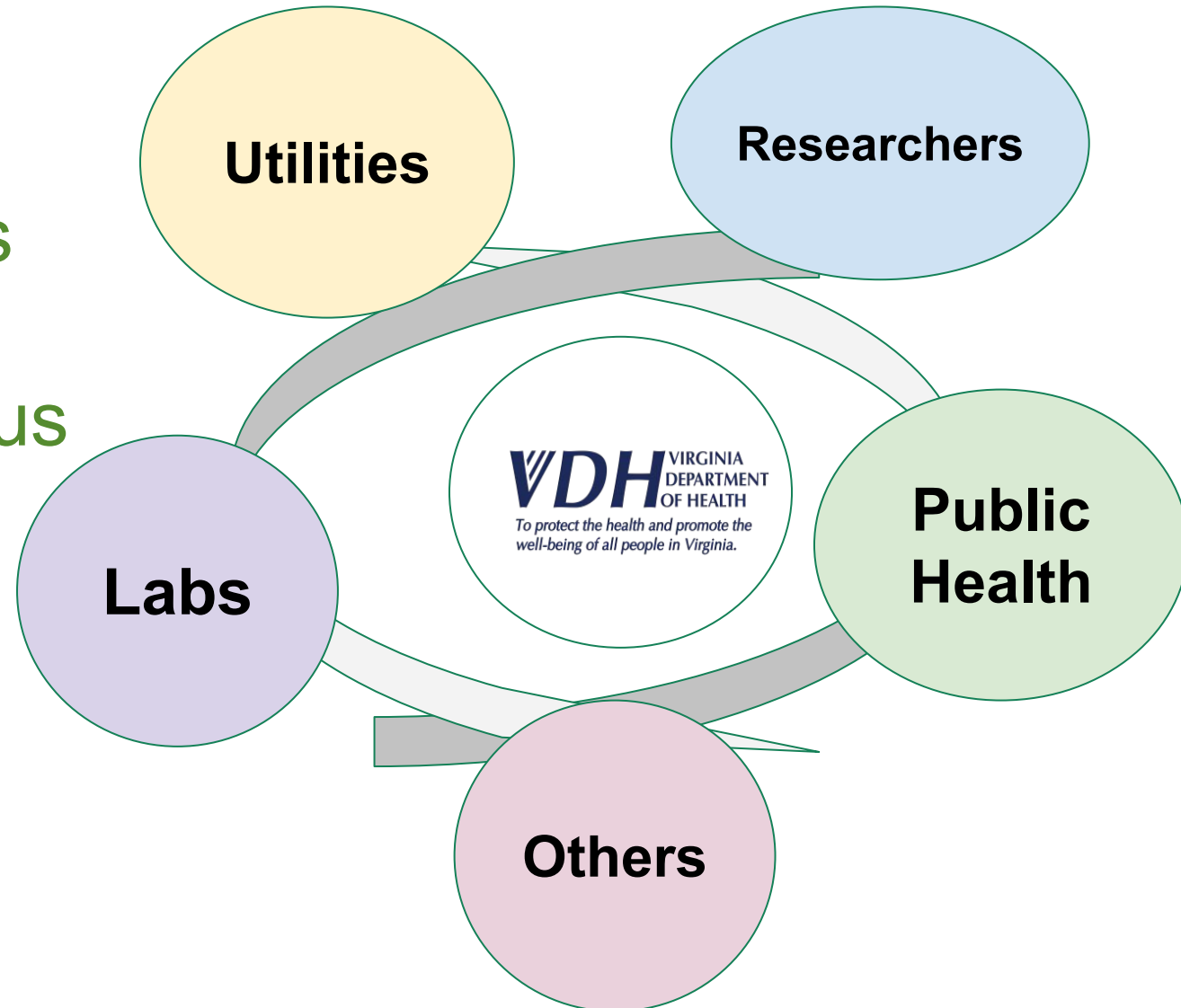
Sampling Locations = Geographical Areas



Current Localized Projects

- Chesapeake
- Department of Corrections (DOC)
- K-12 Public School Campus
- Roanoke

❖ *Accepting applications from interested work groups!*



Localized Project: Chesapeake

Speaker: Cynthia Jackson,
Environmental Health Manager,
Chesapeake Health District

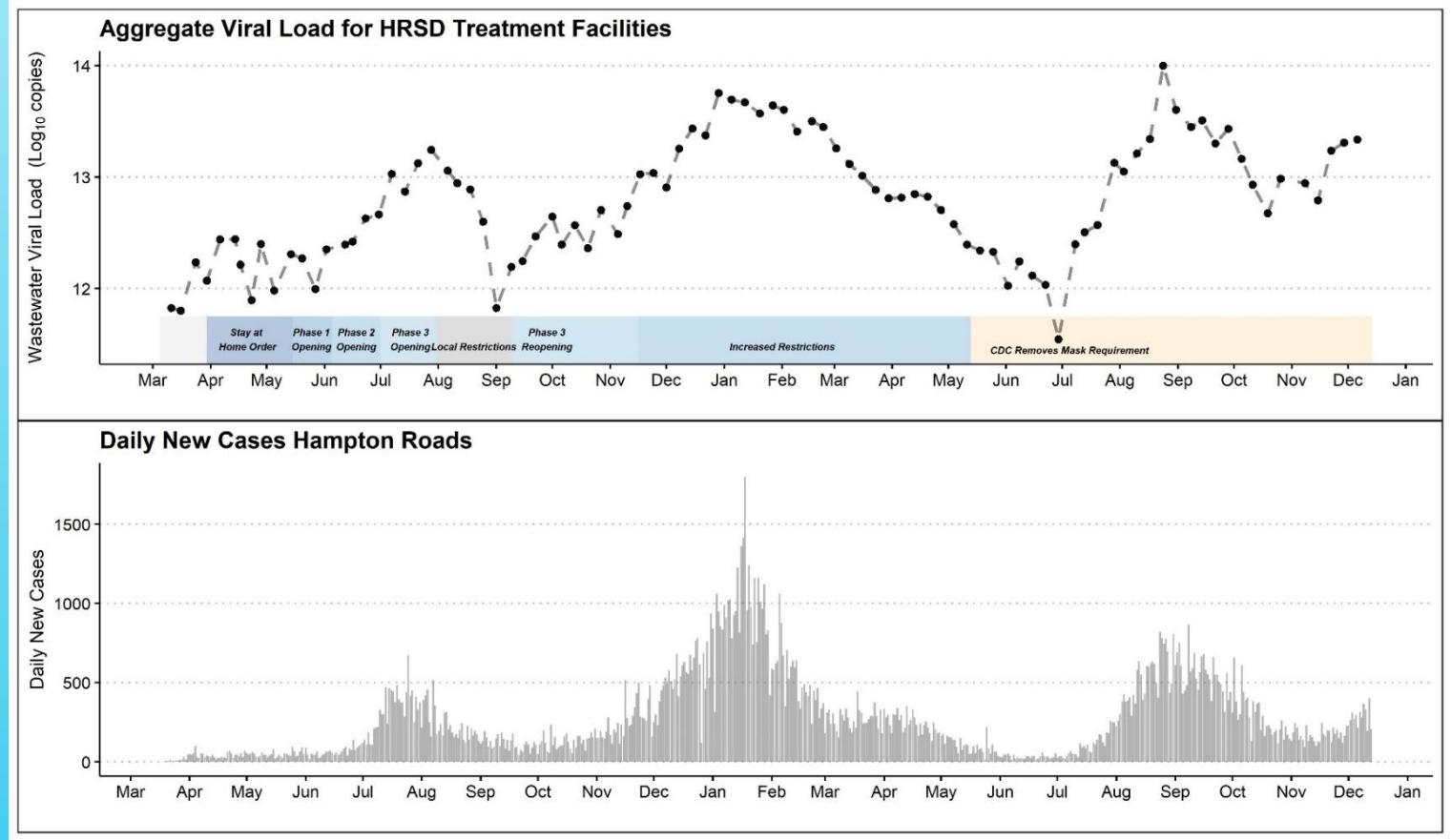
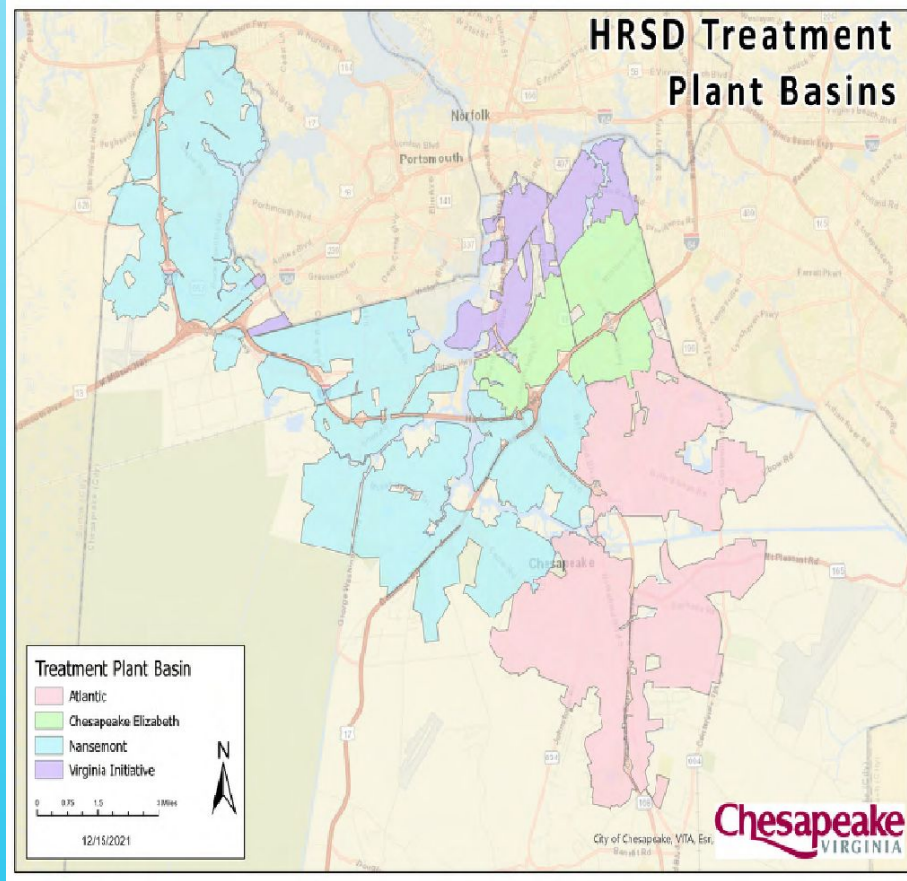
CHESAPEAKE WASTEWATER SURVEILLANCE PROJECT

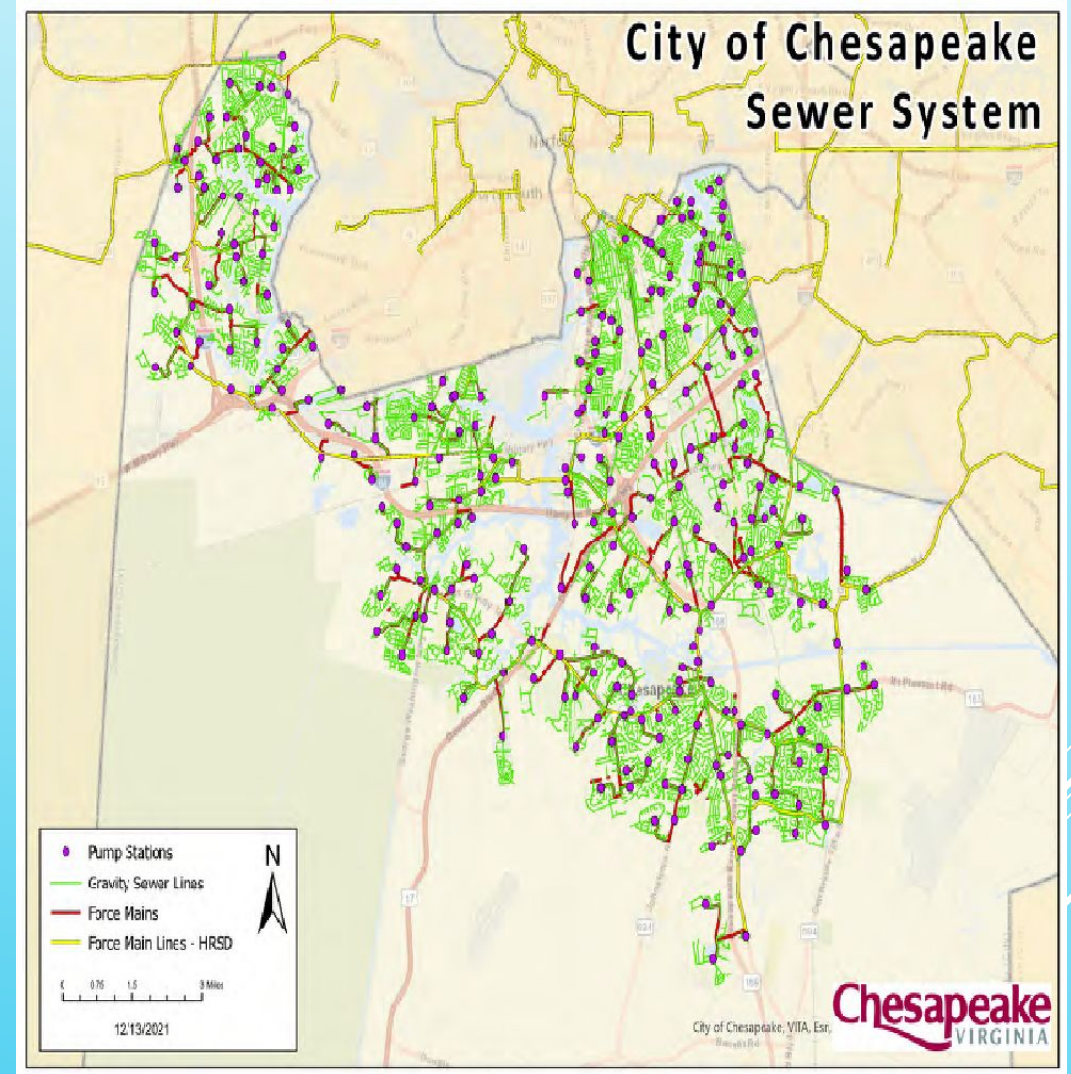
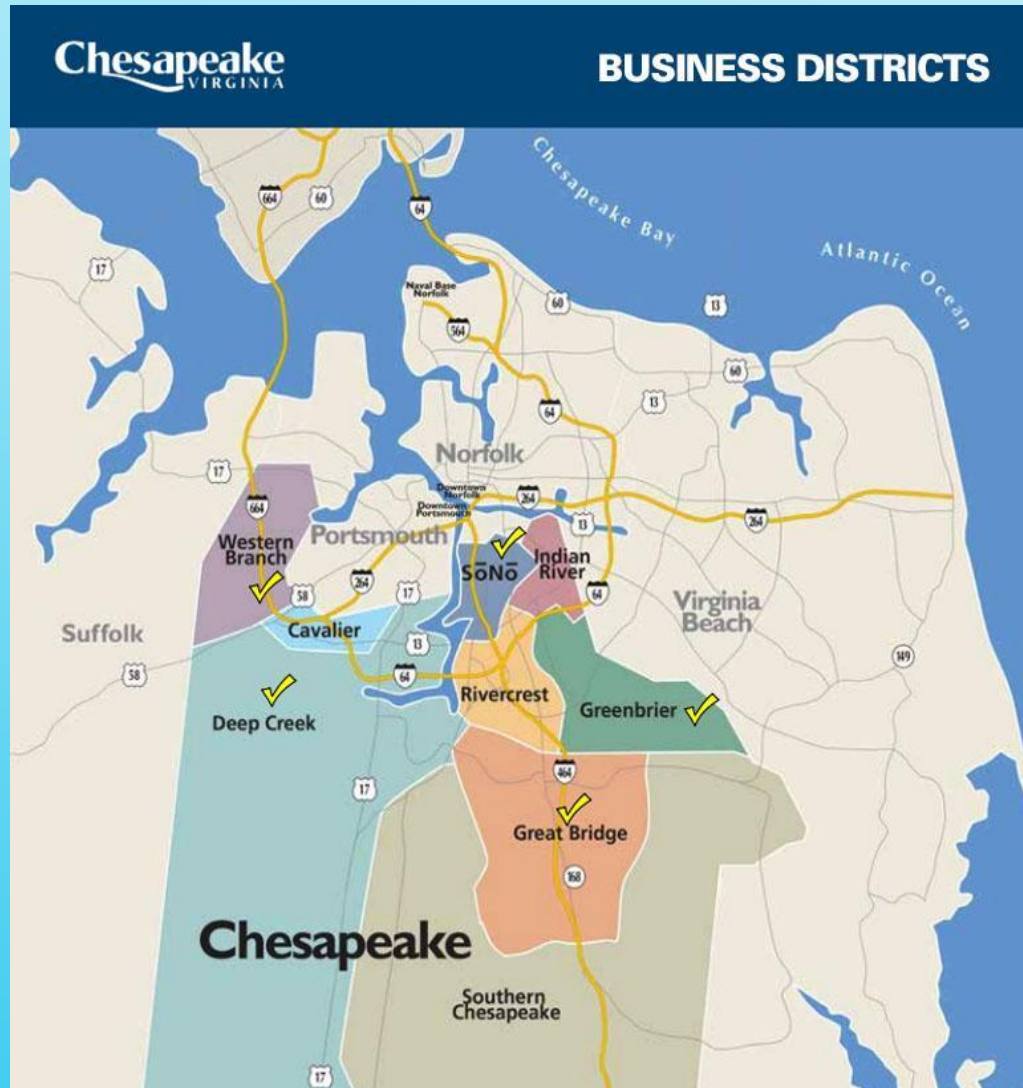
Cynthia Jackson
CHD Environmental Health Manager
February 23, 2022

The workgroup is a collaboration of members:

- ❑ **VDH**- Division of Water and Wastewater Services- program manager, project coordinator
- ❑ **HRSD**- collects, analyze and reports out data
- ❑ **Public Utilities and GIS departments**- provide access to the facilities, coordinate with locality senior management, and create maps
- ❑ **CHD**- provide local community data, create and implement actionable strategies (Health Director, epidemiology team, EH, PR & Marketing)
- ❑ **ODU**- research/reports and create prediction graphs

THE HAMPTON ROADS SANITATION DISTRICT (HRSD) DATA WAS THE DRIVING FORCE BEHIND OUR PROJECT





THE PROJECT FORMED IN THE SPRING OF 2021

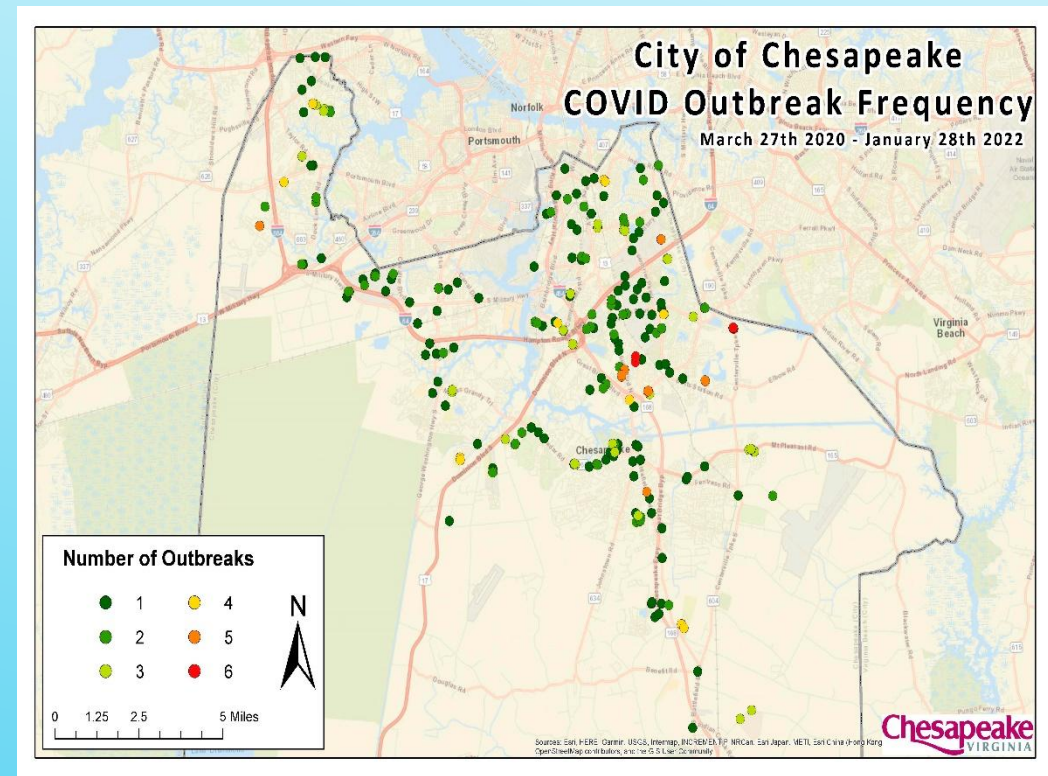
Five pump stations were chosen based upon:

- ❑ HRSD historical data,
- ❑ Flow rates,
- ❑ Population sizes,
- ❑ Health opportunity index,
- ❑ Vaccination rates.

Sampling by HRSD and workgroup meetings are conducted on a weekly basis.

In Late November and early December 2021 Influenza A, B and RSV sampling was added.

CHESAPEAKE WASTEWATER SURVEILLANCE					
COMMONALITIES BETWEEN SAMPLING SITES					
	PS A	PS B	PS C	PS D	PS E
POPULATION	1422	931	572	895	275
HEALTH OPPORTUNITY INDEX	M	VL	Mall/M	VL	M
CHURCHES	2	2	5	3	0
BUSINESSES	53	63	247 *	25	24 **
COMMUNITY CENTERS	0	0	1	0	0
DAYCARES	0	0	1	0	0
HOSPITAL	0	0	0	0	0
LIBRARY	0	0	0	0	0
MEDICAL OFFICE	0	0	0	0	0
PARKS	0	1	0	0	0
RESTUARANTS	3	0	35	0	0
SCHOOLS	0	0	0	0	0
SENIOR HOMES	0	0	0	0	0
* includes Mall					
** 24 home based businesses					



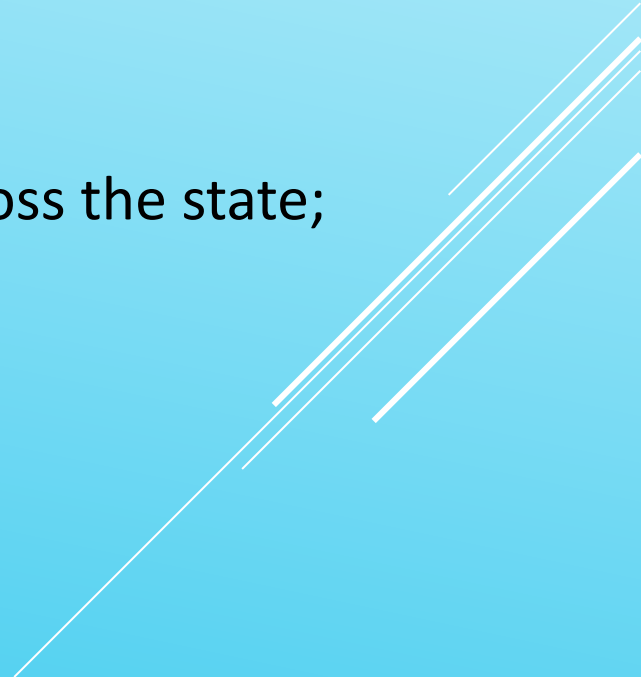
OTHER DATA OF INTEREST ARE COMMONALITIES AND OUTBREAKS WITHIN THE SAMPLING SITES COMPARED TO THE ENTIRE COMMUNITY.

Project Outcomes

The outcomes from this project have significantly contributed to the **development of actionable strategies to prevent and control COVID-19** at the local level. CHD has been using the neighborhood-level virus data to :

- ❑ Mobilize target clinical testing and offering vaccinations;
- ❑ Develop education campaigns where infection rates are higher;
- ❑ Serve as an early warning sign which directs available resources;
- ❑ Allows for community interaction to discuss the virus in a less rushed atmosphere; and
- ❑ To correlate activities and behaviors conducted by the population by tracking outbreaks and creating prediction graphs.

Key Takeaways

- ❑ Utilization of this data allows us to implement targeted public health interventions against the COVID-19 virus and other agents of concern.
 - ❑ Expand our analysis to include other agents such as influenza and opioids;
 - ❑ Expand our sampling sites based upon the collected data;
 - ❑ Share our results and platform design with other districts across the state;
 - ❑ Most importantly, to protect our citizens
- 
- A series of three parallel white diagonal lines in the bottom right corner of the slide, pointing towards the top right.



**Thank
You!!!**

Proposal Requirements

Proposal must define...

- collaborator names/institutions
- WWS locations and collection logistics
- goal/value of project
- confirm at least 1-2x/week sampling
- confirm collection meets necessary requirements for upload to CDC NWSS

Questions & Open Discussion



THANK YOU!



See you next month!

Send inquiries / topics to:
rekha.singh@vdh.virginia.gov